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ABSTRACT

A group of 40 elementary school librarians in the greater Phoenix area of Arizona were invited to participate in a study of the effects of an experimental school library motivational program on library use, library attitudes, and reading attitudes of elementary school students. Librarians at 13 schools participated, with 11 completing the study. Each librarian provided a program of specific library activities taken from "Procedures for Library Study" (Everett, 1982) for sixth grade students, with a control group of students denied any exposure to the special library program. The effects of the program on elementary school students' classroom-related and non-classroom-related (social, study, or research) library use were large, and generalizable to the population of schools of which the 11 studied are representative. Students' attitudes toward the school library/librarian and reading also seemed to improve as a consequence of the program, although this result was suggestive rather than definitive. Although girls made greater use of the library and tended to have more favorable reading attitudes, the treatment appeared to have an equal effect on both sexes. The participating school librarians were very favorable in their evaluation of the program. A seven-item bibliography is provided. (ESR)

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The Effects of a Special School Library Program on Elementary Students' Library Use and Attitudes[1]

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BACKGROUND

Direct involvement of the school library-media program in the instructional process has changed the status of the library-media specialist from passive spectator to an active participant in the drama of teaching and learning (Davies, 1979). Moreover, many librarians and teachers believe that school librarians should be active resource personnel to assist in the motivation of reading and other library use (Lassise, 1982). The purpose of this study is to investigate the effects of a special school library-initiated and library-based motivational program on library use, library attitudes, and reading attitudes of elementary school students.

SELECTION OF SCHOOLS AND LIBRARIANS

Letters were sent to the librarians of forty elementary schools in the greater Phoenix area inviting them to participate in a study of the effects of

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the school library on students' use of, and attitudes toward, the school library. The librarians at thirteen schools responded, indicating that they were interested in participating. Of these, eleven completed the study; two dropped out, reporting that there was insufficient time for the extra work required. Three of the schools are situated in a high-income area, five in a middle-income area, and three are in a low-income area. All the librarians were female; the median number of years of school library experience was approximately ten.

PROGRAM DESCRIPTION

A copy of Procedures for Library Study[2] (Everett, 1982) was provided to each librarian. This guide outlines a program of specific activities for each of the twenty weeks of the study; the program was implemented independently by each of the eleven school librarians. Each week the experimental subjects were given thirty minutes of the special treatment pertaining to library topics, activities, reading suggestions, guest speakers, etc. There were ten recommended topics (e.g., Meet the Author, Scary Stories, Drawings, Languages, Cooking, Jokes and Riddles, Handicaps, World War II, Careers, How-to books/Crafts and Hobbies) and related follow-up activities to be covered during the experimental program. To minimize novelty and Hawthorne threats to external validity, the study continued over a period of twenty weeks. Additionally, students' library use was monitored during the three-week period preceeding the beginning of the treatment. (Library use was also monitored during the four-week period following the treatment, but inconsistencies in recording during this period rendered these data unusuable.)

To insure fidelity with program procedures, each school was visited at least four times and each librarian was monitored by two of the researchers. Close

[2]A copy of this guide is available from the Department of Educational Technology and Library Science, Arizona State University, Tempe, AZ 85287.

telephone communication was maintained with the librarians to provide guidance in the implementation of each topic, and to observe and record any differences in the approach and emphasis at each school.

SUBJECTS

Each librarian was instructed to select one sixth grade class in her school, to obtain a class roster, and assign every other name to the experimental (E) group. This systematic assignment is equivalent to random assignment in these circumstances (Hopkins & Glass, 1978). The total number of subjects who participated in the study was approximately 300, evenly divided into E and C groups. During the study the control students had study hall or worked in special projects with their regular classroom teacher; none of the control groups had any exposure to the special library program.

DEPENDENT VARIABLES

The four principal outcome measures of the study were: (1) classroom-related library use during the twenty-week treatment period (CU), (2) non-classroom-related (social, study, or research) use (NCU) during the treatment period, (3) attitude toward the school library/librarian (LA), and(4) reading attitude (RA). The first two dependent measures were obtained by having each E and C student "sign in" each time the library was used, and to mark the purpose of the visit. As anticipated, the students frequently needed to be reminded to "sign in." Although the librarians differed in the diligence with which they monitored the recording of students' use during the course of the study, this factor should not invalidate E vs. C comparisons, since both groups would be equally affected. It may, however, account for some portion of the large differences among school means on the use measures (evident in Table 1), and invalidate comparisons on the use measures across time periods.

The other two measures, LA and RA, were obtained by having students respond

anonymously to thirty-eight three-choice ("Yes ? No?") attitude questions. The library attitude (LA) scale was composed of sixteen items that were developed using Davis' (1979) criteria for evaluating the school library media program, as a guide. The LA scale was pilot-tested earlier in the year and found to have good reliability (.89). Based on an item analysis of the pilot testing, the wording in a few items was revised. The reading attitude (RA) scale was developed by the authors in an earlier study (Schon, Hopkins & Davis, 1982) where it proved to have satisfactory reliability and validity. In the study itself, the LA scale was found to have an index of reliability (Cronbach's alpha) of .91. The corresponding index for the nineteen RA items was also very high -- .90.

There was an additional ancillary dependent variable designed to monitor the students' response integrity on the attitude measures -- a three-item social desirability response set scale ("Would you rather go to a good movie than go to the school library?", "Do you check out at least one book every day from your library?", etc.) was imbedded within the attitude measure to assess whether the E subjects were acquiescing to any "perceived demand characteristics" of the situation even though they were responding anonymously. If this were the case, their self-report attitudes on the other two scales would have to be discounted or invalidated accordingly. Fortunately few students in either group responded disingenuously -- in the E group only about 11% of the students failed to select the true response to <u>any</u> of the three items; the corresponding response integrity of the C subjects was 13%, non-significantly different ($p > .2$) from that of the E group. Consequently, any E-C comparisons would not appear to be confounded by the social desirability response style, or the "generosity" of the E students.

RESULTS

The "incremental universe of inference analysis" strategy (Hopkins, 1983)

was used in the analysis. In this strategy all factors, even those (like schools) that ideally one wishes to view as random factors, are initially viewed as fixed factors in order to assess whether there is a reliable difference even for the restricted universe of inference (i.e., in this study, for these eleven schools). If significance is attained here, the richer question of the generalizability of the findings to the population of schools is broached.

Schools as a Fixed Factor. Significant treatment effects were obtained on both library use (CU and NCU) measures, and on both attitude (LA and RA) measures, when schools are viewed as a fixed factor. The results of the 2 x 11 treatment-by-school analysis of variance is given in Table 1 for each of the four dependent measures. Means for the E and C treatment groups, and the associated effect sizes, are found in Table 2. For the CU and NCU measures which are ratio scales, percent increase is also given.

Tables 1 and 2 about here

The results summarized in Table 1 shows that the experimental group greatly and significantly exceeded the control group on both library use (CU and NCU) measures. Table 2 shows that during the twenty-weeks of the study the average student use of the library increased dramatically, 101% and 103%, for classroom-related and non-classroom-related use, respectively.

Schools as a Random Factor. When the school factor was treated as a random effect, the E mean continued to significantly ($p < .01$) exceed the C mean on both library use measures, indicating that the treatment effects are generalizable to the population of schools of which the eleven in this study are representative. On the two attitude measures, the mean differences were significant only at the .10 level; consequently the superiority of the E group, however, is not strong enough to be confidently generalized to the other schools "like these." On the

Table 1

Treatment-by-School ANOVAs for Four Dependent Variables when Schools are Viewed as a Fixed (above slash) and as a Random Factor (below slash)

		F			
		Library Use Measures		Attitude Measures	
Source	v	CU	NCU	LA	RA
Treatment (T)	1	6566.[a]/276[a]	30.32[a]/14.15[b]	6.96[b]/4.23[d]	4.10[c]/3.77[d]
School (S)	10	547[a]	10.59[a]	4.56[a]	4.01[a]
T x S	10	23.8[a]	2.14[c]	1.65	1.09
Within[e]	295	(2.38)	(90.75)		
	282			(33.81)	(46.86)

[a] $p < .001$; [b] $p < .01$; [c] $p < .05$; [d] $p < .10$

[e] The within-cell variance (pupils nested within treatment and school) is given in parenthesis.

Table 2

Experimental and Control Means and Effect Sizes (ES)[a]

with Percent Increase for Use Measures

Variable	$\bar{X}_E$	$\bar{X}_C$	ES	% Increase[b]
CU	28.26	14.06	2.07	101%
NCU	11.97	5.91	.55	103%
LA	39.59	37.87	.28	
RA	45.50	44.06	.20	

[a] $ES = (\bar{X}_E - \bar{X}_C) / \sqrt{(s_E^2 + s_C^2)/2}$.

[b] Percent increase is not meaningful on the attitude measures since they do not represent ratio scales.

attitude measures there was no treatment-by-school interaction, showing that the treatment effects were constant and generalizable across schools. There was, however, a highly significant treatment-by-school interaction on the two use measures; an examination of these interaction graphs showed that, although the E mean greatly exceeded the C mean in all eleven schools, the mean difference ranged from 10.6 to 19.1 in CU, and .6 to 17.7 in NCU. In other words, although the treatment appears to have had an effect in all schools, the effects were even greater for some schools (or librarians) than for others.

Ancillary analyses were performed to examine sex differences and the possibility of a treatment-by-sex interaction. The absence of a treatment-by-sex interaction on each of the four criteria indicate that the treatment effects are not dependent on the sex of the student. Although girls made greater use of the library for NCU purposes ($p < .001$), the pattern was uniform in both E and C groups.

Girl means exceeded boy means in NCU library use, although the difference is not statistically significant. The reading attitudes of girls was significantly ($p < .05$) more positive than those of boys, the sex difference in the LA scale was not significant ($p > .10$).

At the conclusion of the study, the librarians were interviewed to obtain their perceptions of the effects of the program. Nine of the eleven librarians indicated that the program was an improvement over the conventional approach, most were enthusiastic in their support of the program. Many indicated that they wanted to use the program with the other classes at their schools. They reported that student interest was especially high in the following topics: Handicaps, Foreign Language, Cooking, and Drawing.

It is apparent from the results of this study that school librarians can influence elementary students' use of the library for study as well as recre-

ational purposes. Moreover, based upon the interviews with the librarians, the improvement of the students' attitudes and use of the school library seems to motivate school librarians to provide new services and materials for students in the library. The librarians felt that working with a small group of students in the library on topics of students' interests had a positive effect on all students, and increased the librarians' enthusiasm and interest in their work. The librarians tended to feel that the program helped them become more of an integral component in the instructional process of the school, rather than serving soley as an ancillary resource.

SUMMARY

The effects of the experimental school library program on elementary school students' classroom-related and non-classroom-related library use are large, and generalizable to the population of schools of which the eleven in this study are representative. There is also reason for believing that students' attitudes toward the school library/librarian and reading improved as a consequence of the program, although this result is suggestive rather than definitive. Although girls made greater use of the library and tended to have more favorable reading attitudes, the treatment appeared to have an equal effect on both sexes. The participating school librarians were very favorable in their evaluation of the program.

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